Report of a Case of Brain Tumor.

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REPORT OF A CASE OF BRAIN TUMOR.*

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The following case is considered of sufficient interest to report: 1. Because of the extreme rarity of this form of growth. 2. Because of the extreme size to which it grew. 3. Because it offers a typical illustration of nearly all, if not all of the effects of a slowly developing intracranial growth. 4. Because of the clinical manifestations shown.

CLINICAL REPORT BY DR. MACDONALD.

Patient.—H. B., aged 36, was admitted to the Central Indiana Hospital for the Insane, October, 1898, was discharged September, 1902, as improved. Re-admitted Dec. 30, 1904.

Family History.—Parents living and in fair health. One maternal uncle epileptic, one cousin insane.

Personal History.—There was no report of severe illness or injury in childhood. At the age of 16 he developed major epilepsy, which was attributed to a sun stroke. Ten years later his left eyeball became abnormally prominent, but observation is faulty as to its first appearance. Four years later a right hemiplegia developed. On admission his mental state was found to be one of arrested development. He was amiable during the interval, but became very irritable before the convulsions, and often had outbreaks of fury following them.

Physical Examination.—Patient is of medium height, and of powerful muscular development. The cranium is apparently symmetrical, except that just behind the left external orbital process an abnormal prominence, smooth, not abrupt in out-

* Read before the Marion County Medical Society, Indianapolis.

line, rises 1 cm. above the general surface, and is about 10 cm. antero-posteriorly and 5 cm. vertically. The percussion note over the prominence is flat and the finger receives the impression of greatly increased resistance, and apparently is not sensitive to pressure. The eyes are prominent, the left excessively so. The pupils are unequally dilated, the left being the larger, and both react slowly to light. There is an extreme degree of optic atrophy. The mouth is drawn slightly to the left. Speech is confined to some half-dozen words. There is a partially-recovered right hemiplegia with some contracture of the hand and foot. Both knee-jerks are exaggerated, the right more marked. There is right ankle-clonus and Babinski's

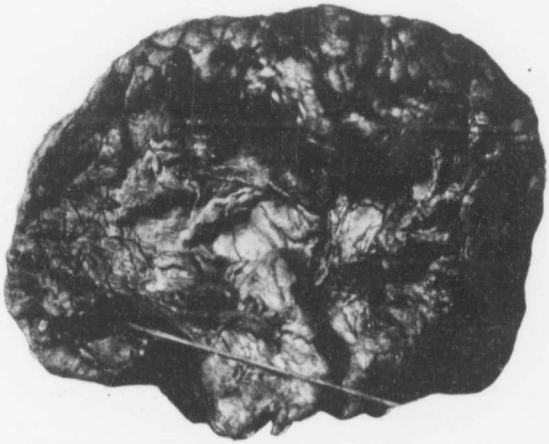

Fig. 1.—Anterio-lateral view of left hemisphere. (*a*) Tip of temp. sphen., lobe turned down.

sign on the right side. The mental condition made other examinations futile. On Dec. 19, 1905, the patient fell during a convulsion and fractured the right inferior maxilla. The shock was rather extreme and three days later he developed serial convulsions, then pneumonia supervened and caused death.

Autopsy.—Head enlarged and brachycephalic in type. Bulging of the left frontal area, of both eyeballs, the left excessively so. Thickness of the skull is very unequal and irregular, varying from that of an egg shell to 1 cm, thinning being particularly marked in the floor of the left anterior and middle fossæ and of the left frontal, squamous, and parietal bones.

There is also atrophy of the petrous portion of the temporal, of the body of the sphenoid, and of the sphenoidal ridge on the left side, enlarging the anterior and middle fossæ, and making them practically continuous with each other. At the lower and anterior part of the left squamous just above the floor of the middle fossæ, are two cone-shaped projections, projecting inward about 1 cm., their bases gradually spreading, becoming continuous with each other at their adjoining surfaces.

There are moderate dural adhesions, most marked on the left side, with thinning of it over the anterior part. There is no subdural or arachnoidean fluid.

Attached by a base 6 to 3 cm. to the inner surface of the

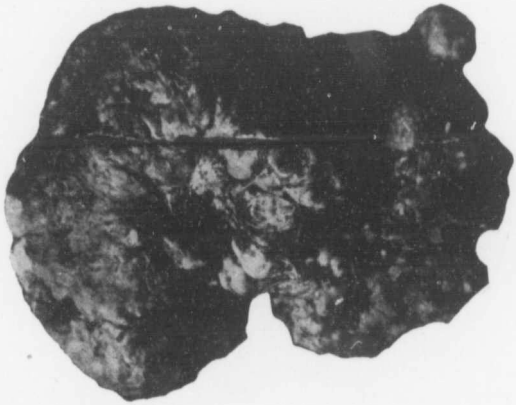

Fig. 2.—External surface view of part lying next to bone. (*a*) Anterio-external and point of attachment.

vertical portion of the left frontal bone at its outer part is a hard, whitish, nodular growth, of cartilaginous consistency, with small areas of slight calcareous infiltration. Its weight is 575 gm., its size 16x12x9 cm., and extends backward and inward, taking the place of the greater part of the outer portion of the left frontal, left parieta. and left temporo-sphenoidal lobes. On its outer surface are two depressions corresponding to the cone-shaped projections from the skull above described.

There is a second smaller growth, 3x2x5.5 cm. in size, springing from the inner surface of the left squamous just above and anterior to the base of the petrous portion, attached by a small pedicle-like base, and of the same structure as the large tumor.

There is an oblique fracture of the right inferior maxilla at the point of junction of the horizontal and vertical portions

extending back, in and upward. A moderate amount of callous, easily broken down, surrounds the seat of fracture.

The brain weighs 1,680 gms. There is complete displacement by atrophy of the left frontal lobe, except a layer averaging about 2 cm. in thickness on its mesial and internal-inferior surface, also of the outer portion of the left parietal lobe, and of the central three-fifths of the left temporo-sphenoidal lobe. The corpus striatum and optic thalamus with the intervening internal capsule are very much decreased in size and displaced inward and downward. The left lateral ventricle is almost closed, the right lateral and the third are much dilated. The first, third, fourth, fifth, sixth, seventh and eighth cranial nerves on the left side are smaller than on the right side and somewhat gray in color. The optic nerves, commissure and tracts are similarly affected, the left more so than the right. The spinal cord is apparently normal.

Fig. 3.—Marginal view, inner surface.

Thorax.—There is slight, fatty infiltration of the right ventricle of the heart, slight arteriosclerosis of the aorta, most marked about the coronary orifices and involving the coronary vessels. There are extensive, diffuse, fibrous, band-like adhesions in both pleural cavities plus an acute fibrinous exudate over the base of the right lower lobe. The lower lobe and base of the upper lobe of the right lung are in a condition of mixed red and grey hepatization. There is also slight hypostasis of posterior and lower portion of the lower left lobe. The thyroid gland is moderately enlarged, tending to cystic formation. There is some hyperplasia of the bronchial glands and congestion of the bronchial mucosa. The remaining cervical and thoracic structures are apparently normal.

Abdomen.—Apart from the kidneys, the abdominal organs do not show any gross pathologic changes. The kidneys are in a condition of chronic parenchymatous-nephritis. The

right renal pelvis is dilated and pouch-like, the mucost thickened and covered with a somewhat yellowish exudate, and the cavity contains a mulberry-like calculus 15 mm. in diameter. The right ureter is slightly dilated.

Microscopic Examination.—The brain tumor consists of practically normal hyalin cartilage throughout. The renal calculus is somewhat stratified and chemically consists mainly of phosphates, some oxalates, traces of xanthin and some organic material.

Osseous deposits in the dura, or small osseous projections from the inner surface of the skull are not infrequent, but the development of a definite tumor, benign in character, is a rare condition, especially chondroma. Gowers does not mention them. Mills refers to them as usually springing from the base of the skull in the form of flattened masses arising either from the bones, or from the dura, and lying like plates on the brain. Starr also refers to their extreme infrequency. No report has been discovered of any intracranial growth of the size of this one. Various authors refer to some the size of oranges, a closed fist, etc., so that this evidently is of an extraordinary size.

The effects produced by a slowly growing intracranial tumor are well shown in this case, involving, as it does, all the structures entering into the formation of the cranial cavity, as well as the contents thereof.

The case is illustrative of a group whose clinical manifestations are similar to and not always differentiable from those constituting the symptom-complex of true, idiopathic epilepsy. Judging from the clinical report one may safely assume that the growth was present at the time of the first so-called epileptic seizure. To what extent it had developed at that time, or to what degree it had involved the brain substance is impossible to say. It is possible, of course, that the epileptic seizures were primary, and the development of the tumor a secondary phenomenon, which may have been the result, directly or indirectly, of those seizures or the conditions producing them, or it may have had no connection with them at first.

The probabilities are, however, that the growth was the direct and exciting cause of the epileptiform seizures, and it does seem that there should be some means rendering possible a diagnosis between the two conditions at a time when operative procedures would be beneficial. But, as yet, we must confess to an inability

to do so, since, on the one hand, one often meets with cases which, during life, are looked on as true idiopathic epilepsy, and the autopsy reveals the presence of some organic lesion, while, on the other hand, cases are also met with regarded as epileptoid, due to some organic lesion, but operation and autopsy fail to discover existence of any such trouble.